AMSAT News Service Weekly Bulletins
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SB SAT @ AMSAT $ANS-149.01
ARSENE STATUS REPORT

HR AMSAT NEWS SERVICE BULLETIN 149.01 FROM AMSAT HQ
SILVER SPRING, MD MAY 29, 1993
TO ALL RADIO AMATEURS BT
BID: $ANS-149.01

ARSENE Attitude Re-Adjustment Successful! OPERATIONS BEGIN 01-JUN-93!!

F6BVP reports that the spacecraft attitude re-adjustment for ARSENE was a complete success. And as result of this successful operation, radio amateurs can expect the Mode-S transponder to be open for traffic on Tuesday, 01-JUN-93! All are invited to use ARSENE's Mode-S transponder with its uplink frequency of 435.100 MHz and its downlink frequency of 2446.50 MHz. The successful attitude orientation change occurred on 27-MAY-93 between 03:00 UTC and 08:00 UTC when ground controllers sent the commands to have ARSENE's propulsion system to begin slowing the spacecraft's spin rate from 70 RPM to 30 RPM. The spin-down was accomplished through the firing of pressurized nitrogen gas from two nozzles located on the spacecraft. At the same time, the spacecraft attitude was changed from being inclined 15 degress to 45 degrees with respect to the orbital-plane. The 45 degree angle will provide the best compromise between antenna pointing for the Mode-S dipole antennas and for solar panel illumination. At the present time ground controllers have taken the weekend off from 27-MAY-93 until 01-JUN-93 for a much deserved rest. Consequently, they have turned off the VHF transmitter. They are still requesting that radio amateurs continue their search for the VHF downlink between 140-150 MHz when they turn it back on 01-JUN-93. If the damaged Local Oscillator (LO) crystal is still working on the VHF transmitter, finding the telemetry signal from ARENE's VHF beacon between 140-150 MHz will go a long way in helping ground controllers to understand this failure. Therefore, they encourage all radio amateurs to continue their VHF "scan" and to enjoy the operations on Mode-S from ARESENE. The Radio Amateur Club of Space (RACE) would like to thank all radio amateurs for the numerous messages of congratulations they have received concerning the launch of this new radio amateur satellite. Please stay tuned to the AMSAT HF/VHF nets and the AMSAT News Service (ANS) bulletins for any further updates about the status of ARSENE.

[The AMSAT News Service (ANS) would like to thank F6BVP for the information which went into this bulletin item. If you would like to write to F6BVP, his INTERNET address is f6bvp@amsat.org and on packet he can be reached at f6bvp@f6bvp.frpa.fra.eu. Please send your signal reports and any other telemetry data to F6BVP at either of the above addresses.]

/EX
SB SAT @ AMSAT $ANS-149.02
UNAMSAT-1 MICROSAT DESCRIPTION

HR AMSAT NEWS SERVICE BULLETIN 149.02 FROM AMSAT HQ
SILVER SPRING, MD MAY 29, 1993
TO ALL RADIO AMATEURS BT
BID: $ANS-149.02

XE1TU Provides Details About A New MICROSAT

Dr. David Liberman (XE1TU) reports that a new amateur radio MICROSAT is being prepared for launch this summer by engineering students and the

faculty at the Autonomous University of Mexico (UAM). This particular MICROSAT, designated as UNAMSAT-1, shares many of the same design characteristics as its "cousins," AO-16 and LU-19. The biggest difference is there will be included a special module to perform scientific experiments to determine the speed of meteorites falling into the earth's atmosphere from space. This special science "module" on UNAMSAT-1 will be contained in a an area of the MICROSAT known as the "This-Space-For-Rent" (TSFR). The TSFR was part of the original MICROSAT design and was intended to house scientific and educational experiements aboard the MICROSATs. For example, on DOVE (DO-17), the TSFR was where the special voice-speech module was located. In the case of LO-19, the CW beacon telemetry transmitter was also placed in the TSFR module. But for UNAMSAT-1, the TSFR module will contain a 70 watt RMS peak-pulse trans-mitter, a single conversion receiver with simultaneous LSB and USB detectors, and a control circuit built with a Motorola 68HC805B6 microprocessor. The microprocessor will control the pulse duration and the repetition rate for the RF pulses sent out on a frequency of 41 MHz. The pulse durations will be from 1 ms to 10 ms with a repetition rate from one pulse-per-second to one pulse every 10 seconds. This microprocessor will also perform an analog-to-digital (A/D) conversion of the received echoes and will verify if the echoes have the approximate doppler-shift that scientist normally observe from meteorites. If the echoes meet the proper criteria, then the microprocessor will increases the pulse repetition rate and start sending the digitized echoes to a Random Access Memory (RAM) buffer located on the main CPU board. This doppler-shift data will then become part of a file which that the user can then download to study and analyze. With special ground-processing software that will be made available from AMSAT, radio amateurs will be able to determine the speed of the meteorites that UNAMSAT-1 has observed. When UNAMSAT-1 is not being used for meteorite speed determination, it will perform the regular duties of a Bulletin Board System (BBS) like AO-16 and LO-19. The BBS software for UNAMSAT-1 will be the same as that used on AO-16 and LO-19. This will allow users of AO-16 and LO-19 to continue to use their stations for BBS operations as they currently are doing, but with UNAMSAT-1 they have the added excitement of participating in a space sciences experiment. The current frequencies for UNAMSAT-1 are as follows: TX1=437.200 MHz, TX2=437.060 MHz and the RX1=145.83 MHz, RX2=145.85 MHz, RX3=145.87 MHz. The pulse transmitter frequency is in 40.997 MHz. Please watch for further updates and status reports on UNAMSAT-1 in the AMSAT News Service (ANS) bulletins.

[The AMSAT News Service (ANS) would like to thank Dr. David Liberman (XE1TU) of for the information which went into this bulletin item. Dr. Liberman can be reached on INTERNET at xe1tu@amsat.org]

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SB SAT @ AMSAT $ANS-149.03
STS-57/SAREX STATUS REPORT

HR AMSAT NEWS SERVICE BULLETIN 149.03 FROM AMSAT HQ
SILVER SPRING, MD MAY 29, 1993
TO ALL RADIO AMATEURS BT
BID: $ANS-149.03

STS-57/SAREX Mission Scheduled For 14-JUN-1993 Lift-Off

KA3HDO reports that the next Shuttle Amateur Radio Experiment (SAREX) has been tenatively scheduled to lift-off during the week of 14-18 of June. The STS-57/SAREX payload will carry 2M voice and packet radio capability. STS-57 is the next in a series of 5 SAREX missions being planned for this year. Originally slated to lift-off 03-JUN-93, a concern about a part in the Shuttle Endeavour's #2 main engine liquid-oxygen fuel turbopump caused NASA officials to decide to delay the launch until the turbopump could replaced with another one. This particular shuttle mission will have a low orbital inclination of 28.5 degrees. Look for keplerian elements and a

list of SAREX frequencies in next week's AMSAT News Service (ANS) bulletins.

[The AMSAT News Service (ANS) would like to thank Frank Bauer (KA3HDO) of the SAREX working group for the information which went into this bulletin item.]

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SB SAT @ AMSAT $ANS-149.04
EOSS BALLOON CONFERENCE SET

HR AMSAT NEWS SERVICE BULLETIN 149.04 FROM AMSAT HQ
SILVER SPRING, MD MAY 29, 1993
TO ALL RADIO AMATEURS BT
BID: $ANS-149.04

Edge Of Space Sciences (EOSS) Prepares For First Balloon Conference

Edge of Space Sciences (EOSS) is sponsoring a National Balloon Symposium on August 20-22, 1993 at the Denver International Airport Holiday Inn, Denver, Colorado.

Subjects will include: Amateur Radio Applications, Basic Balloon Flight Procedures, FAA & FCC Regulations, Balloon and Payload Systems, Applications to Education & Science, Student Participation Projects, Balloon Organization Development, and Payload Tracking & Recovery.

EOSS also wishes to invite balloon experimenters, educators, authors and scientists involved with high altitude balloon experiments to provide papers and presentations at the National Balloon Symposium. Papers should be submitted in electronic form. For deadline information, contact Ann Trudeau, 15487 E. Bates Ave., Aurora, CO 80013, (303) 690-1669.

Registration includes all events at the Symposium, two meals on Saturday, and a copy of the Proceedings. For more information contact Ted Cline (N0RQV), (303) 493-1136, or on INTERNET at ted_cline@hpisla.lvld.hp.com.

/EX
SB SAT @ AMSAT $ANS-149.05
AMSAT-UK SPACE SYMPOSIUM INFO

HR AMSAT NEWS SERVICE BULLETIN 149.05 FROM AMSAT HQ
SILVER SPRING, MD MAY 29, 1993
TO ALL RADIO AMATEURS BT
BID: $ANS-149.05

AMSAT-UK Space Symposium Set 29-JUL-93 to 01-AUG-93

Please be advised that the Eighth Annual AMSAT-UK Colloquium will take place at the University of Surrey Conference Halls and New Space Building from beginning in the morning of Thursday, 29-JUL-93 to the evening of Sunday, 1-AUG-93.

The Secretary of AMSAT-UK advises that there are over eighteen Papers already promised with more to arrive plus plenty of 15 and 30 minute talks, and demo without Papers being presented by members during the four days of Colloquium '93.

Please be advised that ALL delegates who attended 1992 Colloquium will receive an Application Form as a matter of course. These will be sent out to all addreses on last years file on 25th MAY 1993. Any other person or groups who wish to addend, should send a stamped addressed envelope, or 3 IRCs to Ron Broadbent (G3AAJ), AMSAT-UK, London E12 5EQ England before

15-JUN-93. Mark on the top corner of the envelope: "Request for Colloquium Application." This enables coordinators to get the applications to you posted the same day as they are received with other mail.

Please also note: This Colloquium is a Satellite Get-together and we welcome ANYONE giving us their experiences, tips, technical advise and new ideas. This is a FUN by learning weekend in the South of England Countryside.

[The AMSAT News Service would like to thank Ron Broadbend (G3AAJ), the Hon. Sec. of the AMSAT-UK organization for this bulletin item.]
/EX
SB SAT @ AMSAT $ANS-142.06
AMSAT OPS NET SCHEDULE

HR AMSAT NEWS SERVICE BULLETIN 142.06 FROM AMSAT HQ
SILVER SPRING, MD MAY 29, 1993
TO ALL RADIO AMATEURS BT
BID: $ANS-142.06

AMSAT Operations Net Schedule

AMSAT Operations Nets are planned for the following times. Mode B Nets are conducted on AO-13 on a downlink frequency of 145.950 MHz.

Date	UTC	Mode	Phs	NCS	Alt NCS
5-Jun-93	2000	B	147	WB6LLO	WA5ZIB
12-Jun-93	2300	B	132	WA5ZIB	WJ9F
19-Jun-93	1600	B	149	W9ODI	N7NQM

Any stations with information on current events would be most welcomed. Also, those interested in discussing technical issues or who have questions about any particular aspect of OSCAR statellite operations are encouraged to join the OPS Nets. In the unlikely event that either the Net Control Station (NCS) or the alternate do not call on frequency, any participant is invited to act as the NCS.

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Slow Scan Television on AO-13

SSTV sessions will be held on immediately after the OPS Nets a downlink on a Mode-B downlink frequency 145.960 MHz.

/EX
SB SAT @ AMSAT $ANS-149.07
RS-10/AO-21 DUAL-HOP REPORTS

HR AMSAT NEWS SERVICE BULLETIN 149.07 FROM AMSAT HQ
SILVER SPRING, MD MAY 29, 1993
TO ALL RADIO AMATEURS BT
BID: $ANS-149.07

G0NKA Provides Results Of The Dual-Hop Experiments With RS-10 & AO-21

G0NKA rpeorts that the results of Dual-Hop Experiment #3 between RS-10 and AO-21 was quite successful. The purpose of these experiments is to make a contacts going through two different OSCARs. The following are the a brief summary of the results of these experiments performed on 16-MAY-93.

Window #1:
Nothing on this orbit due to too many users of RS-10.

Window #2:

Better this one. Dave G4CUO worked Oscar DJ0MY,DL1SM, and heard PA3FMG and IK7FGE.

Date	Time	Sat	Lat	Lon	QRA	Sub Sat	Separation Approximate	Station Heard
930516:	1254.45	RS14	45.1N	15.4E	JN75QC			
		RS10	55.7N	5.6E	JO15TQ	1661 KM		DJ0MY
930516:	1257.10	RS14	53.3N	17.3E	JO83PH			
		RS10	47.6N	5.6E	JN27TO	1201 KM		IK7FGE

Window #3:

On this orbit the transponder was switched off so we didn't get any contacts, but it was back on for the next orbit so the new software routine seems to be working.

Window #4:

All OK on this orbit and G4CUO worked KM3B, KA8CNI, W8TX, and F9SR. There are other signals on the tape which will have to be noise filtered to make them clear.

930516:	1625.40	RS14	49.4N	36.4W	KN89EJ			
		RS10	52.5N	48.2W	LO42CM	1037 KM	KM3B	559
930516:	1627.20	RS14	55.1N	34.9W	KO75KC			
		RS10	46.9N	47.0W	LN36MV	1438 KM	F9SR	559

The DoHop Group awaits further reports from many stations in Europe and USA who heard this experiment but did not transmit. A very sucessful day with many thanks to the ground controllers at RS3A and UA3CR, all in Moscow, for setting these DoHop Experiments up and making them a success.

[The AMSAT News Service (ANS) would like to thank G0NKA for this bulletin item. If you would like to learn more about the DoHop Experiments, G0NKA can be reached at his packet radio address of G0NKA @ GB7DTX.#26.GBR.EU]

/EX
SB SAT @ AMSAT $ANS-149.08
WEEKLY OSCAR STATUS REPORTS

HR AMSAT NEWS SERVICE BULLETIN 149.08 FROM AMSAT HQ
SILVER SPRING, MD MAY 29, 1993
TO ALL RADIO AMATEURS BT
BID: $ANS-149.08

Weekly OSCAR Status Reports: 29-MAY-93

AO-13: ATTITUDE CHANGE
L QST *** AO-13 TRANSPONDER SCHEDULE *** 1993 May 10 - May 31
Mode-B : MA 0 to MA 130 ! Omnis MA 250 - MA 60
Mode-BS : MA 130 to MA 180 !<- S transponder; B trsp. is ON
Mode-S : MA 180 to MA 190 !<- S transponder; B trsp. is OFF
Mode-LS : MA 190 to MA 195 !<- S beacon + L transponder
Mode-JL : MA 195 to MA 210 ! Blon/Blat 210/0
Mode-B : MA 210 to MA 256 ! Move to attitude 120/0, May 31
Please don't uplink to Mode-B during MA 180-190. Doing so will interfere with Mode-S operations. Mode-S will be ON for nearly 3 hours, from MA 130 to MA 195. New Mode-S stations appear daily. During MA 130-180, Mode-S stations will have to endure the coupling from the Mode-B users operating between the downlink passband between 145.880-145.920 MHz. Either work between them, use them as test signals, or go to cross-band operations. From MA 180-190 is Mode-S transponder exclusive (plus Mode-B beacon). MA 190-195 is Mode-S beacon (plus Mode-L transponder). [G3RUH/VK5AGR/DB2OS]

MIR: Many of the stations which check into the AMSAT 20M International Satellite Net on Sundays have asked that the MIR QSL address be published. The following address is that of Sergei Samburov (RV3DR) who acts as the QSL Manager for the MIR space station:

Sergei Samburov (RV3DR)
Prospect Kosmonavtov. d.36, kw.96
Kaliningrad City, MOSCOW 141070, RUSSIA.

Sergei can also be reached via packet radio as RV3DR @ RK3KP.#MSK.RUS.EU [G3IOR]

UO-22: About a month ago G0SUL added routines to monitor the callsigns of stations using the PACSAT Broadcast Protocol (PBP) server. There have been over 400 different stations heard during 30 days of operation. Many stations (about 50%) are active at least every other day. Summarizing the activity for the week ending Wednesday, 26-MAY-93: the PBP server processed an average of 3,000 requests per day, and transmitted on an average day 8 MB of data and 7 MB of directory entries. The FTL0 server daily averages over that period were 143 logins for 211 messages and 502 KB uploaded. [G0SUL, formerly G0/K8KA]

AO-21: The RUDAK-2 voice synthesizer on board AO-21 (RS14) is now transmitting PY2BJO's Peace Message in the Russian language (female voice) and also in a English language voice. The FM mode repeater and 1200 baud AFSK AX.25 telemetry are also still in the schedule. A French language voice will be loaded next month. [DB2OS]

The AMSAT NEWS Service (ANS) is looking for volunteers to contribute weekly OSCAR status reports. If you have a favorite OSCAR which you work on a regular basis and would like to contribute to this bulletin, please send your observations to WD0HHU at his CompuServe address of 70524,2272, on INTERNET at wd0hhu@amsat.org, or to his local packet BBS in the Denver, CO area, WD0HHU @ W0LJF.#NECO.CO.USA.NOAM. Also, if you find that the current set of orbital elements are not generating the correct AOS/LOS times at your QTH, PLEASE INCLUDE THAT INFORMATION AS WELL. The information you provide will be of value to all OSCAR enthusiasts.

/EX